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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,704	07/13/2006	James Martin	14 0237-PCT-US	3099
28116 7590 07/24/2008 WesternGeco L.L.C. Jeffrey E. Griffin 10001 Richmond Avenue HOUSTON, TX 77042-4299				
EXAMINER				
DIACOU, ARI M				
ART UNIT		PAPER NUMBER		
3663				
MAIL DATE		DELIVERY MODE		
07/24/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,704

Applicant(s)

MARTIN ET AL.

Examiner

ARI M. DIACOU

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-10 and 12-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-10 and 12-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed 10/26/07 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3-10, and 12-19 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claims 5 and 19 are objected to under 37 CFR 1.75(c) as being in improper form because they are multiply dependent claims. See MPEP § 608.01(n). In the interest of compact prosecution, claims 5 and 19 have been examined as if they depended upon claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 3, 5-10, and 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brittan (US 6,894,948 filed Jan. 29, 2003) in view of Combee (WO 01/29580, with a publication date of Apr 26, 2001) however, reference will be made to USP 6876599.

With regard to claims 1, 10, and 17-19, Brittan discloses an apparatus comprising:

- an input interface for receiving seismic data representative of acceleration wavefield (particle acceleration detector, col. 4, line 65);
- a data processor (since the method of Brittan is a processing method; this is inherent);
- memory comprising program instructions executable by the processor to (inherent):

- Process the seismic data representative of the acceleration wavefield (fig. 2) to obtain information about the earth's subsurface (e.g. mudroll; col. 4, line 26) direct from the seismic data representative of the acceleration wavefield (col. 4, lines 64-68); and
- Attenuate coherent noise in the seismic data (fig. 2, #213; col. 4, line 25).

But fails to disclose wherein the noise is over 100 Hz in frequency. Combee discloses attenuating coherent noise with a frequency of 33-256 Hz. Even though he says the noise in this higher frequency region is less coherent he does not say completely incoherent. Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to attenuate higher frequency coherent noise as taught by Combee in the system of Brittan, for the advantage of removing noise from a signal, with advantages well known in signal processing.

With regard to claim 3, Brittan discloses the point source attenuation step is fig. 2, #213.

With regard to claims 5 and 12, Brittan discloses the sources is #109 and the wavefields are acquired with the dual sensors #107 and #108.

With regard to claims 6-9 and 13-16, Brittan discloses the receivers #107 and #108 are disposed on the earth's surface within a water column.

Conclusion

8. The references made herein are done so for the convenience of the applicant. They are in no way intended to be limiting. The prior art should be considered in its entirety.
9. The prior art which is cited but not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ari M. Diacou whose telephone number is (571) 272-5591. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/AMD/

24-Jul-08

/Jack W. Keith/

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Supervisory Patent Examiner, Art Unit 3663